6291.0.55.001 - Labour Force, Australia, Detailed - Electronic Delivery, Apr 2012

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Summary

Main Features

Data from the monthly Labour Force Survey are released in two stages. The **Labour Force, Australia, Detailed - Electronic Delivery** (cat. no. 6291.0.55.001) and **Labour Force, Australia, Detailed, Quarterly** (cat. no. 6291.0.55.003) are part of the second release, and include detailed data not contained in the **Labour Force, Australia** (cat. no. 6202.0) product set, which is released one week earlier.

The **Labour Force, Australia, Detailed - Electronic Delivery** (cat. no. 6291.0.55.001) is released monthly. **Labour Force, Australia, Detailed, Quarterly** (cat. no. 6291.0.55.003) includes data only collected in February, May, August and November (including industry and occupation).

Since these products are based on the same data as the **Labour Force, Australia** (cat. no. 6202.0) publication, the **6202.0 Labour Force, Australia Main Features** are relevant to both releases.

# Understanding Labour Force

UNDERSTANDING THE AUSTRALIAN LABOUR FORCE USING ABS STATISTICS

In order to understand what is happening in Australian society, or our economy, it is helpful to understand people's patterns of work, unemployment and retirement. ABS statistics can help to build this picture. Fifty years ago, the majority of Australians who worked were men working full-time. Most worked well into their 60s, sometimes beyond, and if they were not working most were out looking for work until that age. The picture now is very different. Far more people work part-time, or in temporary or casual jobs. Retirement ages vary much more, with a greater proportion of men not participating in the labour force once they are older than 55. Nowadays, 45% of working Australians are women, compared with just 30% fifty years ago. These are profound changes that have helped shape 21st Century Australia. This note explains some of the key labour force figures the ABS produces that can be used to obtain a better picture of the labour market.
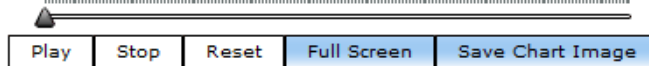
Changes in the proportion of people actively participating in the labour market, 1966 to 2011

Aug-66
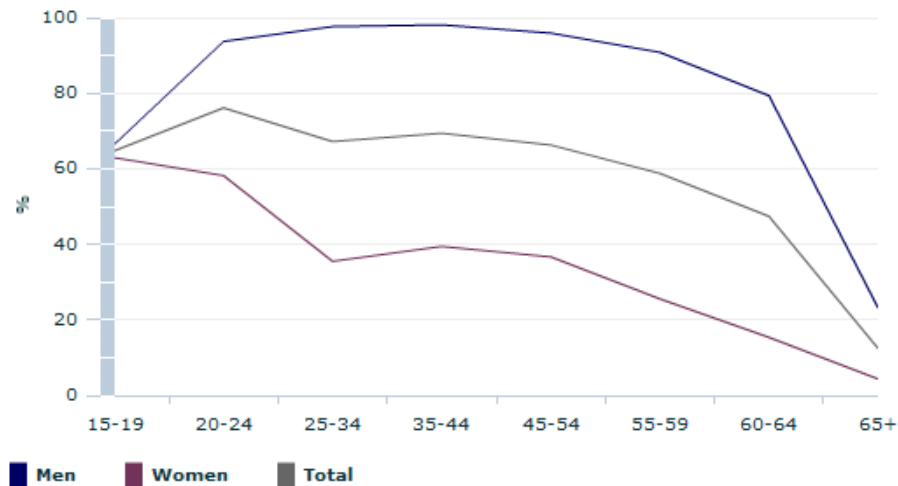
Controls

Aug-66   Feb-77   Aug-85   Feb-94   Aug-02   Feb-11   Aug-11

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Australian Bureau of Statistics

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Source(s): Labour Force, Australia, Detailed - Electronic Delivery (cat. no. 6291.0.55.001); Labour Force Historical Timeseries, Australia (cat. no. 6204.0.55.001)

Every month, the ABS runs a Labour Force Survey across Australia covering almost 30,000 homes as well as a selection of hotels, hospitals, boarding schools, colleges, prisons and Indigenous communities. Apart from the Census, the Labour Force Survey is the largest household collection undertaken by the ABS. Data are collected for about 60,000 people and these people live in a broad range of areas and have diverse backgrounds - they are a very good representation of the Australian population. From this information, the ABS produces a wide variety of statistics that paint a picture of the labour market. Most statistics are produced using established international standards, to ensure they can be easily compared with the rest of the world. The ABS has also introduced new statistics in recent years that bring to light further aspects of the labour market. It can be informative to look at all of these indicators to get a grasp of what is happening, particularly when the economy is changing quickly.

One thing to remember about the ABS labour force figures is that when a publication states that, for example, 11.4 million Australians are employed, the ABS has not actually checked with each and every one of these people. In common with most statistics produced, the ABS surveys a sample of people across Australia and then scales up the results – based on the latest population figures - to give a total for the whole country. Because the figures are from a sample, they are subject to possible error. The Labour Force Survey is a large one, so the error is minimised. The ABS provides information about the possible size of the error to help users understand how reliable the estimates are.

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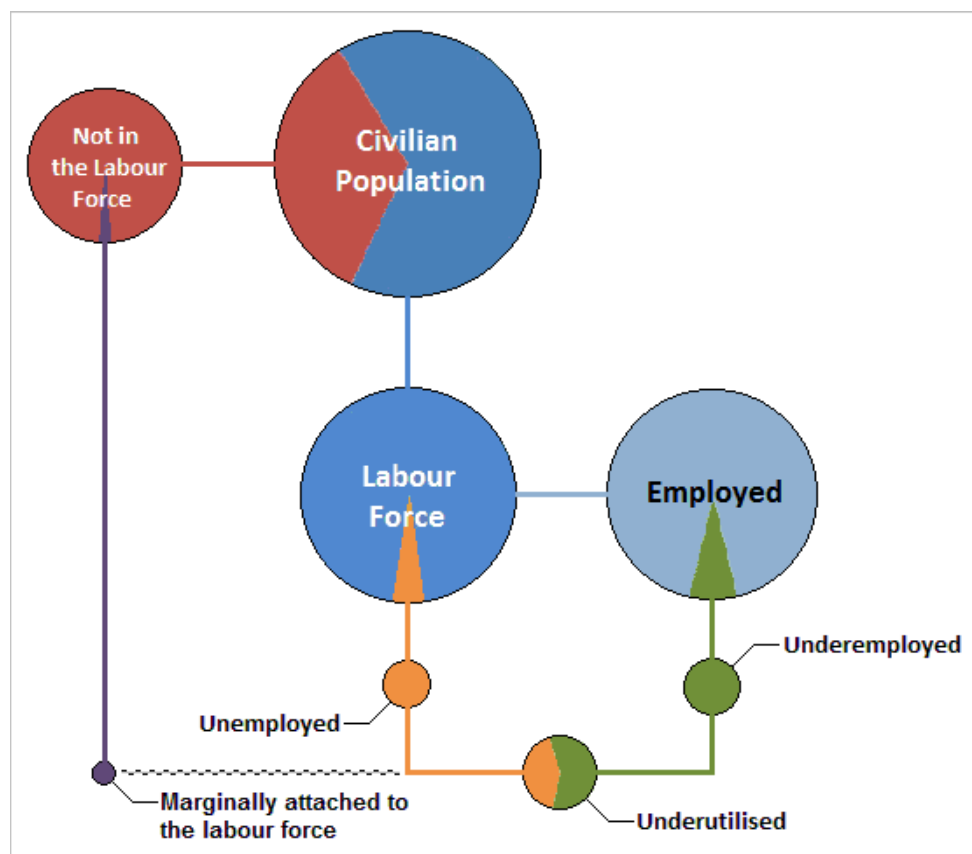
The above diagram shows the break down of the civilian population into the different groups of labour force participation. Each pixel represents about 1000 people as at September 2011.

EMPLOYMENT

According to established international standards, everyone who works for at least one hour or more for pay or profit is considered to be employed. This includes everyone from teenagers who work part-time after school, to a partially retired grandparent working for pay at the school canteen. While it is unreasonable to expect a family to survive on the income of an hour of work per week, one could also argue that all work, no matter how small, contributes to the economy. This definition of 'one hour or more' - which is an international standard - means that ABS' employment figures can be compared with the rest of the world. Now it is, of course, easy to argue that someone who works 2 or 3 hours per week is not really "employed", but a definition is required, and any cut-off point is open to debate. Imagine if ABS defined being 'employed' as working 15 hours a week. Would it be reasonable to argue that someone who works 14.5 hours is unemployed, but 15 hours is not? It is also a mistake to assume that all persons who work low hours would prefer to work longer hours, and are therefore 'hidden' unemployment. Most people who work less than 15 hours a week are not seeking additional hours, although of course there are some who are. The issue of underemployment is further discussed below.

Rather than open up such discussions, the ABS prefers to use the international standard and the ABS also encourages people to consider other indicators to form a better picture of what is happening. Alongside the total employed figures, full-time and part-time estimates are provided to better inform on the different kinds of employment, and a detailed breakdown by the number of hours worked is also provided to allow for customised definitions of 'employment.'

Commentators often refer to the rise in employment as the number of new jobs created each month. This can be misleading, because the ABS doesn't actually measure the number of jobs. This might sound like semantics, but if a person in the Labour Force Survey who is employed gains a second part-time job at the same time as their main job, this would have no impact on the employment estimate - the Labour Force Survey does not count jobs, it counts people.

It is also important to bear in mind that if the relative growth in population is greater than the number of new people in employment, there might actually be an increase in the employment figure, but a lower

percentage of people with jobs. It is often informative to look at the proportion of people in employment. This measure, called the **employment to population ratio**, is the number of employed people expressed as a percentage of the civilian population aged over 15. This removes the impact of population growth to give a better picture of labour market dynamics over time.

AGGREGATE MONTHLY HOURS WORKED

Instead of counting how many people are working, another way of looking at how much Australians are working is to count the total number of hours worked by everyone. This is measured by a statistic produced by the ABS called **Aggregate monthly hours worked**, and it is measured in millions of hours. This can sometimes be more revealing of what is happening in the labour market, particularly in a weakening economy where a fall in hours worked can usually be seen before any fall in the number of people employed.

PEOPLE WHO ARE NOT WORKING: THE UNEMPLOYED AND OTHERS

There are many reasons why Australians do not work. Some have retired and are not interested in going back to work. Some are staying home to look after children and plan on going back to work once the kids have grown older. Some are out canvassing for work every day while others have given up looking. The ABS separates all of these people into those who are unemployed and those who are not by asking two simple questions*:* **If you were given a job today, could you start straight away?** and **Have you taken active steps to look for work?** Only those who are ready to get back into work, and are taking active steps to find a job, are classed as unemployed.

Some people might like to work, but are not currently available to work - such as a parent who is busy looking after small children. Other people might want to work but have given up actively looking for work - such as a discouraged job seeker who only half-heartedly glances at the job adds in the newspaper but doesn't call or submit any applications. These people are not considered to be unemployed, but are regarded as being **marginally attached** to the labour force. They can be thought of as 'potentially unemployed' when, or if, their circumstances change, but are regarded as being on the fringe of labour force participation until then.

It is important to note that the ABS unemployment figures are not the same as the data that Centrelink collects on the number of people receiving unemployment benefits. The ABS bases its figures on asking people directly about their availability and steps to find work. In this way, policy decisions about, for example, the criteria for the receipt of unemployment benefits have no impact on the way that the unemployment figures are measured.

LABOUR FORCE AND PARTICIPATION RATE

The size of the labour force is a measure of the total number of people in Australia who are willing and able to work. It includes everyone who is working or actively looking for work - that is, the number of employed and unemployed together as one group. The percentage of the total population who are in the labour force is known as the **participation rate***.*

## UNEMPLOYMENT RATE

The **unemployment rate** is the percentage of people in the labour force who are unemployed. This is a popular measure around the world for tracking a country's economic health as it removes all the people who are not participating (such as those who are retired). Because the unemployment rate is expressed as a percentage, it is not directly influenced by population growth.
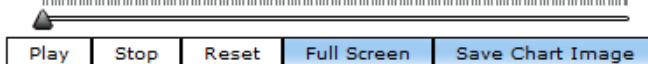
Unemployment Rate by Age groups, 1966 to 2011

Aug-66

Men | Women
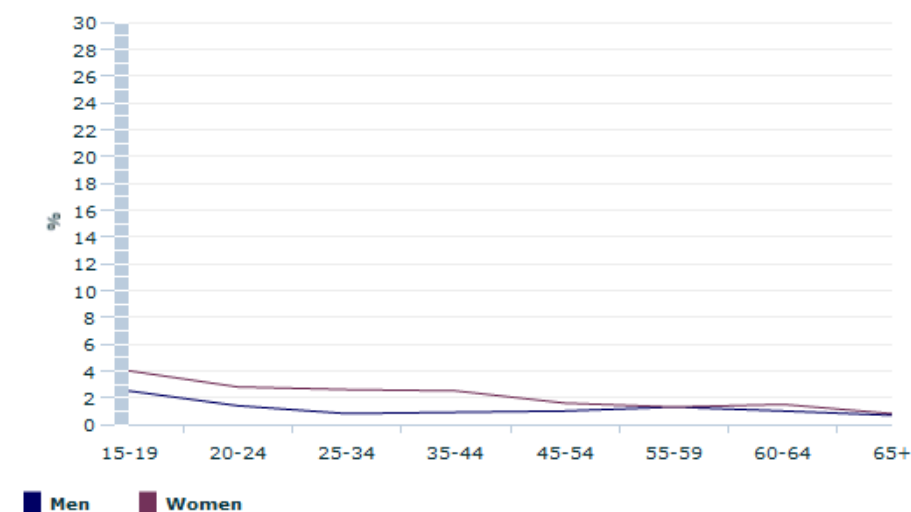
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Aug-66   May-82   Aug-89   Nov-96   Feb-04   May-11   Aug-11

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Australian Bureau of Statistics

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Source(s): Labour Force, Australia, Detailed - Electronic Delivery (cat. no. 6291.0.55.001); Labour Force Historical Timeseries, Australia (cat. no. 6204.0.55.001)

UNDEREMPLOYMENT RATE

The **underemployment rate** is a useful companion to the unemployment rate. Instead of looking at the people who are unemployed, the underemployment rate captures those who are currently employed, but are willing and able to work more hours. It highlights the proportion of the the labour force who work part-time but would prefer to work full-time. This is sometimes referred to as the 'hidden' potential in the labour force.

The underemployment rate can be an important indicator of changes in the economic cycle. During an economic slow down, some people lose their jobs, become unemployed and contribute to a rising unemployment rate. But while this is happening, there might well be others who remain working but have their hours reduced, for example from full-time to part-time. As long as they want to work more hours, they are classed as underemployed, and contribute to the underemployment rate.

LABOUR FORCE UNDERUTILISATION RATE

The **labour force underutilisation rate** combines the unemployment rate and the underemployment rate into a single figure that represents the percentage of the labour force that is willing and able to do more work. It includes people who are not currently working and want to start, and those who are currently working but want to - and can - work more hours. It provides an alternative – and more complete - picture of labour market supply than the unemployment rate, as changes in the underutilisation rate capture both changes in unemployment and underemployment, indicating the spare capacity in the Australian labour force.

FURTHER INFORMATION

For any queries regarding these measures or any other queries regarding the Labour Force Survey

estimates, contact Labour Force on Canberra 02 6252 6525, or via email at labourforce@abs.gov.au.

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Population Benchmarks and Labour Force Survey

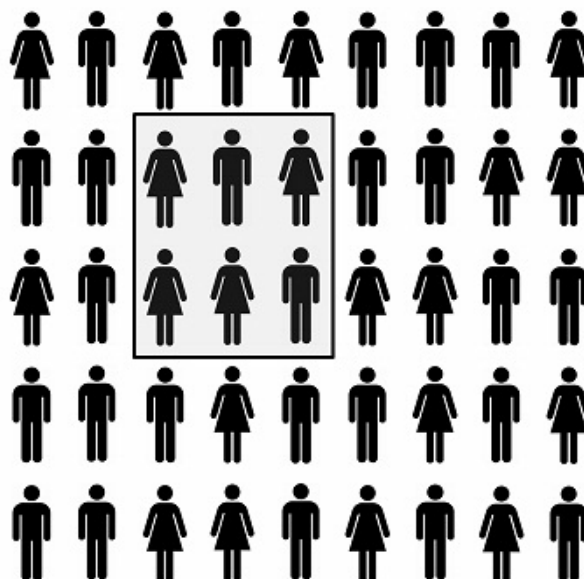## POPULATION BENCHMARKS AND LABOUR FORCE SURVEY

INTRODUCTION

Each month a selection of around 30 thousand dwellings from across Australia participate in the Labour Force Survey. This equates to a sample of between 50 and 60 thousand individuals aged 15 and over or 0.3% of the population. Because the Labour Force Survey uses a sample to calculate estimates and not a count of every individual aged 15 and over, it is important that the sample that is selected is representative. If any particular demographic is over- or under-represented in the fully responding sample of households, it is also important that it is accounted for in the estimation process. Here we will discuss how population benchmarks are used to correct for unrepresentative samples in the Labour Force Survey, describe how the benchmarks for the Labour Force Survey are calculated and explore some of the features and limitations of the benchmarks.

WEIGHTING USING POPULATION BENCHMARKS - A SIMPLIFIED EXPLANATION

As mentioned previously, the estimates from the Labour Force Survey are based on a sample of the Australian population aged 15 and over. Population benchmarks are used to assign 'weights' to individual records to overcome any misrepresentation that might exist in the sample. The term misrepresentation in this context refers to either an over- or under-representation of a specific demographic group in the sample (i.e. age, sex or specific geographic location).

Here we will provide an explanation of how weighting works using a very small and simple population. Below we have a population of 40 people comprising equal numbers of men and women (20 each). From this population we have selected a sample of 6 people, which is made up of 2 men and 4 women. Straight away we can tell our sample has an over-representation of women and an under-representation of men. We can assign each individual in our sample a weight to account for the over- and under-representation. For example, the two men in sample represent a total of 20 men, therefore, each man in sample will have a weight of 10 (i.e. 20/2), whereas the weight for each of the women in sample is five (i.e. 20/4).

HOW ARE LABOUR FORCE POPULATION BENCHMARKS CALCULATED?

Weighting using population benchmarks in the Labour Force Survey is done in a similar way to the example above, except it is much more complex. Each individual record in the sample is assigned a weight that is largely dependent on their sex, age and where they usually live. But before a weight can be assigned we first must have reliable information on the **composition** of the population. Population benchmarks provide this information.

Population benchmarks used in the Labour Force Survey use the most recent Estimated Resident Population (ERP) as a starting point with certain subpopulations excluded (i.e. defence force personnel, out of scope territories and children aged under the age of 15 are excluded). However, at the time population benchmarks are required for the Labour Force Survey, the most recent ERP figures are for a time point in the past. To produce population benchmarks for the Labour Force Survey, ERP growth is projected forward one year, which is one quarter ahead of the current quarter and then interpolated back to the previous Labour Force population benchmark. For the current quarter this means ERP growth was projected forward from the September 2011 ERP figure, to the end of the September 2012 quarter and then interpolated back to the end of the March 2012 quarter (See summary figure below).
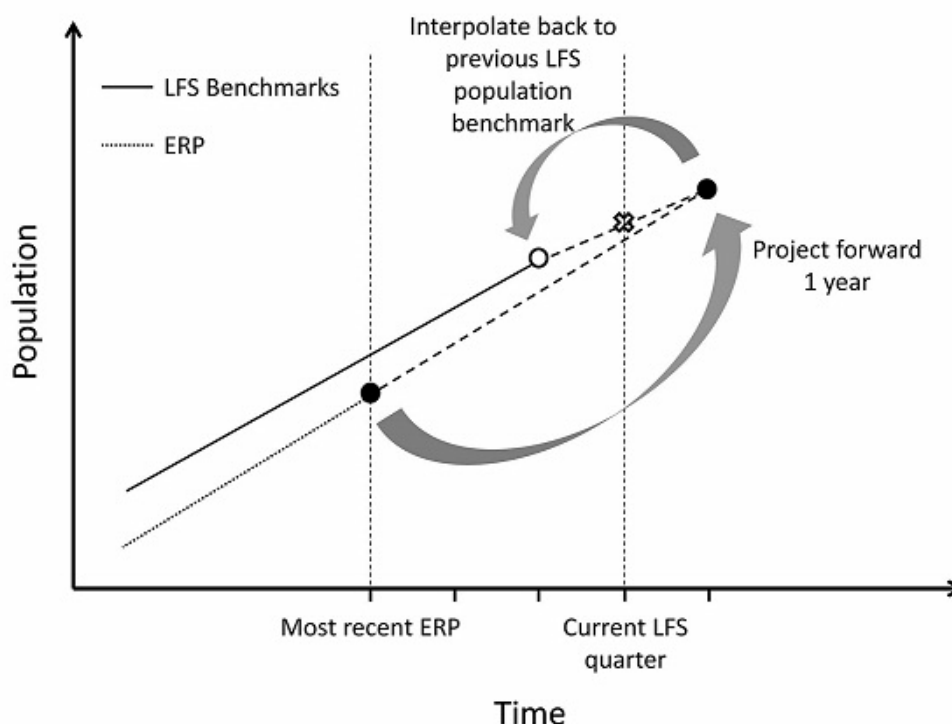
PROJECTION ASSUMPTIONS AND NET OVERSEAS MIGRATION

The projection used to derive population benchmarks for the Labour Force Survey depends on a number of assumptions about the different components of population growth. The components of population growth for both total population and state populations are:

- Births and Deaths
- Net Interstate Migration (NIM)
- Net Overseas Migration (NOM)

For Births and Deaths and NIM it is assumed that these components of growth are unchanged from the same period as the most recent ERP figures. Prior to October 2010, it was also assumed that the NOM component did not change from that used in the most recent ERP. However, due to the volatile nature of NOM in recent times, the ABS has revised the assumptions used to calculate the contribution of NOM to the Labour Force population benchmarks. Before examining the assumptions that are used to inform the NOM component of population projections, it is important to understand what NOM is, how it is calculated for ERP and also to explore some of the difficulties associated with providing an accurate account of NOM for the Labour Force population benchmarks.

WHAT IS NOM AND THE 12/16 MONTH RULE?

Net overseas migration is the net gain or loss of population through immigration to Australia and emigration from Australia. It is based on an international travellers' duration of stay being in or out of Australia for 12 months or more; and the difference between:

- the number of incoming international travellers who stay in Australia for 12 months or more (over the 16 month period since their arrival) who are not currently counted within the population, and are then added to the population (NOM arrivals); and
- the number of outgoing international travellers (Australian residents and long-term visitors to Australia) who leave Australia for 12 months or more (over the 16 month period since their departure), who are currently counted within the population, and are then subtracted from the population (NOM departures).

However, it is important to point out that the period of 12 months does not have to be continuous. This means that someone may enter / leave the country and then leave / return for short periods. The 12 month period is calculated only by the total time they have spent inside or outside the country over a 16 month period and is not in any way based on the continuity of the period within or outside the country.

What this means for estimating ERP each quarter is that we can only be certain about NOM for a period of at least 16 months in the past and not the current quarter. It also means that for each new quarter the ABS has to estimate whether people who arrive or leave in the reference period should be counted or subtracted from the population (known as preliminary NOM). To calculate these preliminary estimates the ABS uses propensity models. In simple terms, the propensity models used by the ABS look at how particular groups of travellers behaved one year ago. This behaviour is then used to calculate how similar groups may behave into the future and thus enables a preliminary estimate to be calculated for NOM. After 16 months have past, the final figure for NOM (known as final NOM) can be calculated based on actual behaviour and this is included in revisions that are published twice a year, in March and September.

NOM AND LABOUR FORCE POPULATION BENCHMARKS

Now that we have a broad understanding of how the NOM component of ERP is calculated, we will explore some of the difficulties associated with calculating the NOM contribution to the Labour Force population benchmarks and explore some of the limitations of these population benchmarks. As was discussed previously, the most recent ERP, from which the Labour Force population benchmarks are derived, relies on propensity models to calculate the NOM component of population growth. This means that there is some degree of uncertainty built into the population estimates used in the Labour Force Survey. This is solely because an individual's NOM 'status' cannot be determined until 16 months after their arrival / departure. This uncertainty is somewhat compounded because to calculate the Labour Force population benchmarks for the current Labour Force quarter the population growth needs to be projected six months ahead of the current Labour Force month or one year ahead of the most recent ERP estimate. In effect, this means that the behaviour of overseas travellers needs to be forecast, many of which are yet to arrive in or depart from Australia. To do this, the ABS uses a range of supplementary data to shape the assumptions for the NOM component of the Labour Force population benchmarks. One of the main sources of supplemental data is forecasts for NOM produced by the Department of Immigration and Citizenship. The details of the forecasting framework used by the Department of Immigration and Citizenship can be found in Appendix C of their quarterly publication: 'The Outlook for Net Overseas Migration'.

The ABS started using this approach from October 2010. Prior to this, the assumptions used to calculate NOM's contribution in the Labour Force population benchmarks were the same as for Births and Deaths and NIM, that is, it was assumed that NOM was the same as at the time ERP was estimated. This new methodology was introduced to more accurately account for more contemporary changes in NOM, as in recent times NOM has been relatively volatile.

REVISIONS TO LABOUR FORCE POPULATION BENCHMARKS AND IMPACTS ON ESTIMATES

Normally the Labour Force population benchmarks are fixed once they are forecast. Benchmarks are revised once every five years, after data from the Census of Population and Housing has been calculated and rebasing of ERP has been finalised. However, the benchmarks were revised in July 2010 after significant revisions were made to NOM in ERP. These revisions included all data from July 2006 to June 2010.

In recent times, there has been renewed interest in how NOM is contributing to the population benchmarks and speculation that the Labour Force population benchmarks are under-estimating population growth. It is important to note that the population benchmarks used for the Labour Force Survey are not intended to be used as a guide for future population growth. The sole purpose of the population benchmarks is to account for under- and over-representation of population groups in the sample used to calculate the monthly Labour Force estimates. The head count in the Labour Force population benchmarks is somewhat irrelevant as all that changes when the benchmarks are revised up or down is that individuals are either given a larger or smaller weight to reflect the change in population size. Instead, an accurate account of the composition of the population is much more important as this will determine what weight will be given to a particular demographic group.

To illustrate the previous point, we can examine what impact the most recent revisions had on the population count, the composition of the population and two measures produced in the Labour Force: Employment level estimates and the Employment to Population ratio. Below is a graph that shows the difference between the revised population count and the population count from the Labour Force population benchmarks. It shows that the population benchmarks used for Labour Force estimation were underestimating the size of total Labour Force population and this peaked in September 2009.

Revisions To Labour Force Civilian population, July 2010
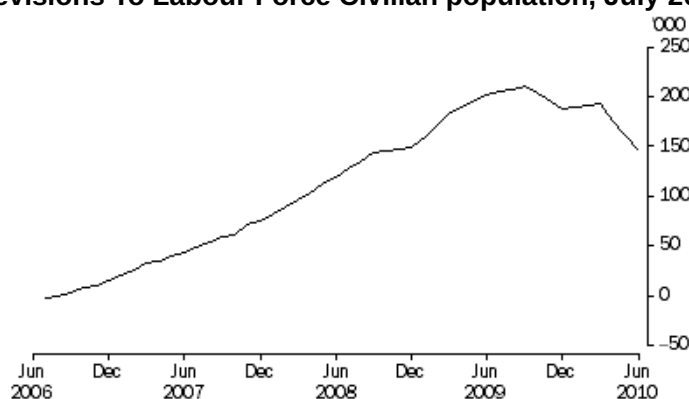
However, if we examine the changes in the composition of the population by analysing the change in age structure we notice that the differences are quite small. The graph below shows the maximum percentage change in age group composition after the revisions in July 2010. The largest change was a 0.31% difference in the percentage of 20 to 24 year olds in the total population. It is important to remember that individuals in the sample are weighted based on age as well as sex and the location of their usual residence.

Maximum percentage change of age groups after revisions, July 2010
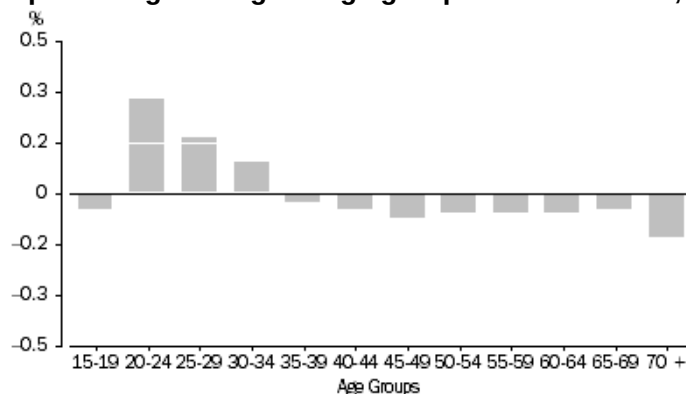
Based on this analysis we can see that while the overall size of the population was revised up in the July

2010 revisions, the actual composition of the population changed only slightly. If we now examine the impact on the employment level estimates we see that, like the Labour force civilian population, the differences appear to be quite large. The graph below shows the largest revision was 156 thousand for September 2009. This does not mean that there were 156 thousand more people employed in September than was first estimated, it means in broad terms the weight assigned to each individual in sample in September was much more after the revisions were carried out.

Revisions to labour force employment level estimates, July 2010
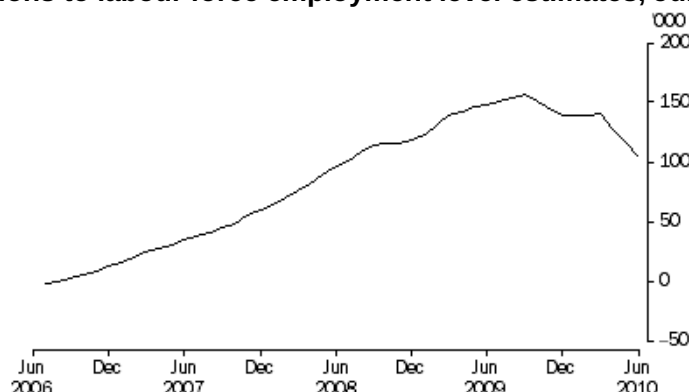
A measure that is less sensitive to revisions is the Employment to Population ratio as population levels are removed as a confounding influence. We can see below that the employment to population ratio is virtually unchanged after the revisions. The largest revision was 0.18% in July 2009. The reason the Employment to Population ratio has not changed markedly is because, 1) the number of employed people in the survey did not change and 2) the composition of the population benchmarks was similar. In essence, the only thing that changed after the revisions was an increase in the total number of people estimated to be part of the population and therefore weights assigned to individuals was increased. The advantages of using the Employment to Population ratio rather than Employment level estimates are further explained in the January 2012 issue of 6202.0 - Labour Force, Australia (Employment level estimates versus Employment to Population Explained).

Revisions to Labour force employment to population ratio, July 2010
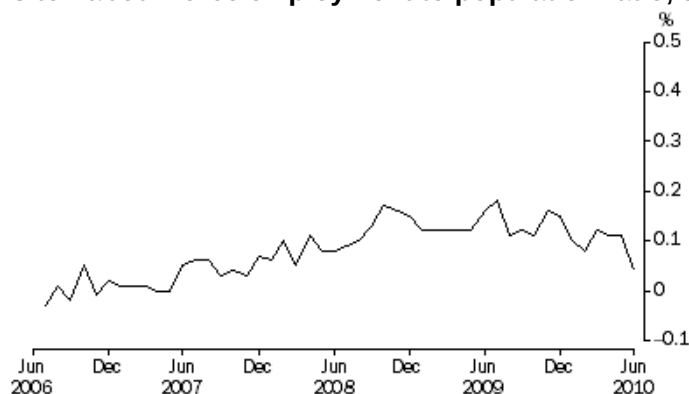
In summary, the Labour Force population benchmarks are **not** designed to give an accurate count of the population. They are designed and used to account for under- and over-representation of population groups in the sample of people that are selected each month. Furthermore, the ABS expects that the new methodology employed to account for NOM in the Labour Force population benchmarks is sufficient to detect any changes in NOM that may impact on our ability to produce quality Labour Force statistics.

About this Release

A range of Excel spreadsheets and SuperTABLE datacubes. The monthly spreadsheets contain broad level data covering all the major items of the Labour Force Survey in time series format, including seasonally adjusted and trend estimates. The monthly datacubes contain more detailed and cross classified original data than the spreadsheets.

Explanatory Notes

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Since these products are based on the same data as the Labour Force, Australia (cat. no. 6202.0) publication, the 6202.0 Labour Force, Australia Explanatory Notes are relevant to both releases.

Quality Declaration - Summary

QUALITY DECLARATION - SUMMARY

INSTITUTIONAL ENVIRONMENT

Labour Force statistics are compiled from the Labour Force Survey which is conducted each month throughout Australia as part of the Australian Bureau of Statistics (ABS) household survey program. For information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.

RELEVANCE

The Labour Force Survey provides monthly information about the labour market activity of Australia's resident civilian population aged 15 years and over. The Labour Force Survey is designed to primarily provide estimates of employment and unemployment for the whole of Australia and, secondarily, for each state and territory.

TIMELINESS

The Labour Force Survey enumeration begins on the Sunday between the 5th and 11th of the month, except for the Christmas and New Year holiday period. In December enumerations starts between the 3rd and 9th (4 weeks after November enumeration begins). In January enumeration starts between the 7th and 13th (5 weeks after December enumeration begins).

Key estimates from the Labour Force Survey are published in two stages. The first, *Labour Force, Australia* (cat. no. 6202.0), is released 32 days after the commencement of enumeration for the month, with the exception of estimates for December which are published 39 days after the commencement of enumeration.

The second stage includes detailed data that were not part of the first stage and are published in *Labour Force, Australia, Detailed - Electronic Delivery* (cat. no. 6291.0.55.001) and *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003). The second stage is released 7 days after the first stage.

ACCURACY

The Labour Force Survey is based on a sample of private dwellings (approximately 29,000 houses, flats etc) and non-private dwellings, such as hotels and motels. The sample covers about 0.33% of the Australian civilian population aged 15 years or over. The Labour Force Survey is designed primarily to provide estimates of key labour force statistics for the whole of Australia and, secondarily, for each state and territory.

Two types of error are possible in an estimate based on a sample survey: non-sampling error and sampling error.

Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise reporting error by the careful design of questionnaires, intensive training and supervision of interviewers, and efficient data processing procedures. Non-sampling error also arises because information cannot be obtained from all persons selected in the survey. The Labour Force Survey receives a high level of cooperation, with an average response rate for the last year being 97%.

Sampling error occurs because a sample, rather than the entire population, is surveyed. One measure of the likely difference resulting from not including all dwellings in the survey is given by the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included in the survey, and about nineteen chances in twenty that the difference will be less than two standard errors.

Standard errors of key estimates and movements since the previous month are available in *Labour Force, Australia* (cat. no. 6202.0). The standard error of other estimates and movements may be calculated by using the spreadsheet contained in *Labour Force Survey Standard Errors, Data Cube* (cat. no. 6298.0.55.001).

COHERENCE

The ABS has been conducting the Labour Force Survey each month since February 1978. While seeking to provide a high degree of consistency and comparability over time by minimising changes to the survey, sound survey practice requires careful and continuing maintenance and development to maintain the integrity of the data and the efficiency of the collection.

The changes which have been made to the Labour Force Survey have included changes in sampling methods, estimation methods, concepts, data item definitions, classifications, and time series analysis techniques. In introducing these changes the ABS has generally revised previous estimates to ensure consistency and coherence with current estimates. For a full list of changes made to the Labour Force Survey see Chapter 20 in *Labour Statistics: Concepts, Sources and Methods* (cat. no. 6102.0.55.001).

INTERPRETABILITY

The key estimates from the Labour Force Survey are available as original, seasonally adjusted and trend series. Seasonal adjustment is a means of removing the effects of normal seasonal variation from the series so other influences on the series can be more clearly recognised. Seasonal adjustment does not aim to remove the irregular influences which may be present and therefore month-to-month movements may not be reliable indicators of underlying behaviour. To assist in interpreting the underlying behaviour, the ABS produces the trend series by smoothing the seasonally adjusted series to reduce the impact of the irregular component. For further information, see *A Guide to Interpreting Time Series - Monitoring Trends* (cat. no. 1349.0).

Further information on the terminology and other technical aspects associated with statistics from the Labour Force Survey can be found in the publication *Labour Force, Australia* (cat. no. 6202.0), which contains detailed Explanatory Notes, Standard Error information and a Glossary.

ACCESSIBILITY

Please see the Related Information tab for the list of products that are available from this collection.

Time Series Spreadsheet (I-Note) - Time Series Spreadsheet

Due to the flooding in Queensland in January 2011, the relative standard errors for January 2011 will vary across regions and will be higher than normal in some regions.
The RSEs for the Darling Downs-South West and Ipswich City Statistical Regions are expected to be approximately 50% higher, while the RSEs for the Brisbane City Inner Ring Statistical Region will increase by approximately 25%. The Brisbane City Outer Ring, West Moreton and Mackay-Fitzroy-Central West Statistical Regions will have RSEs approximately 10% higher. All other regions have minimal differences. However from February 2011, the data returns to normal. Refer to the article *Impact of the floods on the Labour Force Survey* in January 2011 for more information.

Data Cubes (I-Note) - Data Cubes

Due to the flooding in Queensland in January 2011, the relative standard errors for January 2011 will vary across regions and will be higher than normal in some regions.
The RSEs for the Darling Downs-South West and Ipswich City Statistical Regions are expected to be approximately 50% higher, while the RSEs for the Brisbane City Inner Ring Statistical Region will increase by approximately 25%. The Brisbane City Outer Ring, West Moreton and Mackay-Fitzroy-Central West Statistical Regions will have RSEs approximately 10% higher. All other regions have minimal differences. However from February 2011, the data returns to normal. Refer to the article *Impact of the floods on the Labour Force Survey* in January 2011 for more information.

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Standard Errors

Estimates from the Labour Force Survey (LFS) are based on information collected from people in a sample of dwellings, rather than the entire population. Hence the estimates produced may differ from those that would have been produced if the entire population had been included in the survey. The most

common measure of the likely difference (or 'sampling error') is the **standard error** (SE).

The ABS considers that estimates with a relative standard error of 25% or more may be subject to sampling variability too high for most practical purposes.

To determine if an item has a relative standard error of 25% or more, in SuperTABLE, right click in the centre of the table, select annotate cells - standard annotations, and select 'Annotate RSE cut-off values'.

To indicate those cells in spreadsheets with a relative standard error of 25% or more, annotations have been applied prior to dissemination.

In addition, the tables below have been supplied to show estimates at which the relative standard error is 25%. Estimates of the size indicated in the tables, or smaller, are considered to be subject to sampling variability too high for most practical purposes.

Due to the January 2011 flooding in Queensland the relative standard errors for January will be higher than normal in some regions, therefore for Queensland the estimates at which the relative standard error is 25% will be higher than they appear in the tables below. However from February, the data returns to normal.

Additional information on how standard errors for LFS estimates are produced is available in Labour Force Survey Standard Errors, Data Cube (cat. no. 6298.0.55.001).

State	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Employed									
Feb 78 to Sep 82	4.5	4.5	3.5	2.5	2.5	1.5	2.0	2.0	4.5
Oct 82 to Aug 87	4.0	4.0	3.0	1.8	2.0	1.0	1.8	1.3	3.5
Sep 87 to Aug 92	4.5	4.5	3.0	2.0	2.5	1.3	1.8	1.5	4.0
Sep 92 to Aug 97	5.3	4.6	3.5	2.4	2.9	1.3	1.3	1.0	4.0
Sep 97 to Mar 01	5.9	4.5	4.1	2.4	2.8	1.1	1.0	1.1	4.4
Apr 01 to Oct 07	4.9	4.1	3.7	2.0	2.3	1.1	1.4	1.1	4.9
Nov-07	5.0	4.1	3.8	2.0	2.4	1.2	1.3	1.1	5.0
Dec-07	5.0	4.2	3.9	2.0	2.4	1.2	1.2	1.1	5.0
Jan-08	5.1	4.3	3.9	2.1	2.5	1.2	1.2	1.2	5.1
Feb-08	5.2	4.4	4.0	2.1	2.6	1.2	1.1	1.2	5.1
Mar-08	5.4	4.4	4.1	2.1	2.9	1.2	1.0	1.2	5.2
Apr-08	5.5	4.6	4.5	2.2	3.0	1.2	0.9	1.3	5.3
May-08	5.5	4.7	4.5	2.3	3.1	1.3	0.9	1.3	5.4
Jun-08	5.6	4.8	4.6	2.3	3.2	1.3	0.9	1.3	5.4
Jul 08 to Aug 09	7.0	6.0	5.7	2.9	4.0	1.6	1.0	1.6	7.7
Sep-09	6.6	5.7	5.4	2.7	3.7	1.5	1.0	1.5	7.2
Oct-09	6.2	5.4	5.1	2.6	3.5	1.4	0.9	1.4	6.7
Nov-09	5.9	5.1	4.9	2.4	3.3	1.3	0.9	1.4	6.4
Dec-09 onwards	5.6	4.8	4.6	2.3	3.2	1.3	0.9	1.3	6.0
Unemployed									
Feb 78 to Sep 82	4.5	4.5	3.5	2.5	2.5	1.5	2.0	2.0	4.5
Oct 82 to Aug 87	4.0	4.0	3.0	1.8	2.0	1.0	1.8	1.3	3.5
Sep 87 to Aug 92	4.5	4.5	3.0	2.0	2.5	1.3	1.8	1.5	4.0
Sep 92 to Aug 97	5.3	4.6	3.5	2.4	2.9	1.3	1.3	1.0	4.0
Sep 97 to Mar 01	5.9	4.5	4.1	2.4	2.8	1.1	1.0	1.1	4.4
Apr 01 to Oct 07	5.7	4.9	4.2	2.7	3.0	1.7	2.4	1.5	4.7
Nov-07	5.8	5.0	4.3	2.8	3.2	1.7	2.2	1.6	4.8
Dec-07	5.9	5.1	4.4	2.8	3.3	1.7	1.9	1.6	4.8
Jan-08	6.0	5.3	4.5	2.9	3.4	1.7	1.8	1.7	4.9
Feb-08	6.2	5.4	4.7	3.0	3.6	1.8	1.6	1.7	4.9
Mar-08	6.4	5.5	4.8	3.0	3.9	1.8	1.5	1.8	5.0
Apr-08	6.5	5.8	5.2	3.2	4.1	1.8	1.4	1.9	5.1
May-08	6.6	5.9	5.3	3.3	4.3	1.9	1.3	2.0	5.2
Jun-08	6.8	6.1	5.5	3.3	4.5	1.9	1.3	2.1	5.2
Jul 08 to Aug 09	8.9	8.0	7.3	4.4	6.0	2.5	1.6	2.7	7.5
Sep-09	8.3	7.4	6.7	4.1	5.5	2.3	1.5	2.5	7.0
Oct-09	7.7	6.9	6.3	3.8	5.2	2.1	1.4	2.3	6.5
Nov-09	7.2	6.5	5.9	3.6	4.8	2.0	1.3	2.2	6.1
Dec-09 onwards	6.8	6.1	5.5	3.3	4.5	1.9	1.3	2.1	5.8
NILF									
Feb 78 to Sep 82	4.5	4.5	3.5	2.5	2.5	1.5	2.0	2.0	4.5
Oct 82 to Aug 87	4.0	4.0	3.0	1.8	2.0	1.0	1.8	1.3	3.5
Sep 87 to Aug 92	4.5	4.5	3.0	2.0	2.5	1.3	1.8	1.5	4.0
Sep 92 to Aug 97	5.3	4.6	3.5	2.4	2.9	1.3	1.3	1.0	4.0
Sep 97 to Mar 01	5.9	4.5	4.1	2.4	2.8	1.1	1.0	1.1	4.4
Apr 01 to Oct 07	5.9	4.8	4.4	2.5	2.9	1.3	1.8	1.3	5.3
Nov-07	6.0	4.9	4.5	2.5	3.0	1.4	1.7	1.4	5.3
Dec-07	6.1	5.0	4.5	2.6	3.0	1.4	1.6	1.4	5.4
Jan-08	6.2	5.1	4.6	2.6	3.1	1.4	1.5	1.4	5.4
Feb-08	6.2	5.2	4.7	2.7	3.2	1.4	1.4	1.5	5.5
Mar-08	6.6	5.4	4.8	2.7	3.6	1.4	1.2	1.5	5.6
Apr-08	6.7	5.6	5.3	2.9	3.7	1.5	1.1	1.6	5.7
May-08	6.8	5.7	5.5	2.9	3.9	1.5	1.1	1.6	5.8
Jun-08	6.9	5.9	5.6	3.0	4.0	1.5	1.0	1.7	5.8
Jul 08 to Aug 09	8.7	7.4	7.1	3.7	5.1	1.9	1.3	2.0	8.3
Sep-09	8.1	7.0	6.6	3.5	4.8	1.7	1.2	1.9	7.8
Oct-09	7.7	6.6	6.2	3.3	4.5	1.7	1.1	1.8	7.3
Nov-09	7.2	6.2	5.9	3.1	4.2	1.6	1.1	1.7	6.9
Dec-09 onwards	6.9	5.9	5.6	3.0	4.0	1.5	1.0	1.7	6.5

Capital City/Balance of State	Sep 92 to Aug 97	Sep 97 to Mar 01	Apr 01 to Oct 07	Nov 07 to Jun 08	Jul 08 to Nov 09	From Dec 09
Sydney Major Statistical Region	5.3	5.7	5.0	5.8	7.3	5.8
Balance of New South Wales Major Statistical Region	5.3	5.7	5.0	5.7	7.2	5.7
Melbourne Major Statistical Region	4.6	4.6	4.2	5.0	6.3	5
Balance of Victoria Major Statistical Region	4.6	4.3	4.1	4.9	6.1	4.9
Brisbane Major Statistical Region	3.5	3.7	3.5	4.3	5.4	4.3
Balance of Queensland Major Statistical Region	3.6	4.3	3.7	4.7	5.8	4.7
Adelaide Major Statistical Region	2.4	2.4	2.1	2.5	3.1	2.5
Balance of South Australia Major Statistical Region	2.5	2.2	2.0	2.4	2.9	2.4
Perth Major Statistical Region	2.9	2.6	2.5	3.4	4.2	3.4
Balance of Western Australia Major Statistical Region	2.9	2.8	2.3	3.2	4.0	3.2

Regions	Sep 97 to Mar 01	Apr 01 to Oct 07	Nov 07 to Jun 08	Jul 08 to Nov 09	From Dec 09
Sydney Major Statistical Region	5.7	5.0	5.8	7.3	5.8
Inner Sydney and Inner Western Sydney Statistical Regions	4.4	6.8	8.0	10.5	8.0
Inner Sydney Statistical Region	3.8	7.2	8.5	11.1	8.5
Inner Western Sydney Statistical Region		6.3	7.4	9.8	7.4
Eastern Suburbs Statistical Region	2.4	8.1	9.6	12.5	9.6
St George-Sutherland Statistical Region	1.7	6.2	7.3	9.6	7.3
Canterbury-Bankstown Statistical Region	2.9	6.1	7.3	9.5	7.3
Fairfield-Liverpool and Outer South Western Sydney Statistical Regions	4.3	6.3	7.4	9.7	7.4
Fairfield-Liverpool Statistical Region	4.0	6.3	7.5	9.8	7.5
Outer South Western Sydney Statistical Region		6.2	7.3	9.6	7.3
Central Western Sydney Statistical Region	2.2	6.7	7.9	10.4	7.9
North Western Sydney Statistical Region (1)	3.1	6.1	7.3	9.5	7.3
Outer Western Sydney Statistical Region	3.1				
Blacktown-Baulkham Hills Statistical Region					
Lower Northern Sydney Statistical Region	3.2	6.6	7.8	10.3	7.8
Central Northern Sydney Statistical Region (2)	3.0	6.1	7.2	9.5	7.2
Hornsby-Ku-ring-gai Statistical Region					
Northern Beaches Statistical Region	2.1	6.6	7.8	10.2	7.8
Gosford-Wyong Statistical Region	2.3	6.2	7.4	9.7	7.4

(1) Formerly Outer Western Sydney Statistical Region & Blacktown
(2) Formerly Hornsby - Ku-rin-gai Statistical Region & Baulkham Hills

	Sep 97 to Mar 01	Apr 01 to Oct 07	Nov 07 to Jun 08	Jul 08 to Nov 09	From Dec 09
Balance of New South Wales Major Statistical Region	5.7	5.0	5.7	7.2	5.7
Hunter Statistical Region	4.0	6.0	7.1	9.3	7.1
Newcastle Statistical Region Sector	3.6	5.9	7.1	9.3	7.1
Hunter excluding Newcastle		6.0	7.1	9.3	7.1
Illawarra and South Eastern Statistical Regions	4.6	6.5	7.7	10.1	7.7
Illawarra Statistical Region	3.8	6.8	8.1	10.6	8.1
Wollongong Statistical Region Sector	2.4	6.4	7.6	10.0	7.6
Illawarra excluding Wollongong		7.6	9.0	11.7	9.0
South Eastern Statistical Region		6.0	7.2	9.4	7.2
Richmond-Tweed and Mid-North Coast Statistical Regions	5.5	6.4	7.6	10.0	7.6
Murray-Murrumbidgee Statistical Region	5.7	6.4	7.5	9.9	7.5
Northern, Far West-North Western and Central West Statistical Regions	5.1	6.3	7.5	9.8	7.5
Northern, North Western and Central West Statistical Regions		6.4	7.6	9.9	7.6
Far West Statistical Region		5.4	6.4	8.4	6.4

Region					
Melbourne Major Statistical Region	4.6	4.2	5.0	6.3	5.0
Outer Western Melbourne Statistical Region	3.0	4.8	5.9	7.8	5.9
North Western Melbourne Statistical Region	3.5	5.2	6.5	8.5	6.5
Inner Melbourne Statistical Region	3.2	6.0	7.4	9.7	7.4
North Eastern Melbourne Statistical Region	2.8	5.1	6.4	8.3	6.4
Inner Eastern Melbourne Statistical Region	3.0	4.9	6.1	8.0	6.1
Southern Melbourne Statistical Region	2.5	5.0	6.3	8.2	6.3
Outer Eastern Melbourne Statistical Region	3.0	5.2	6.5	8.5	6.5
South Eastern Melbourne Statistical Region	3.6	4.9	6.1	8.0	6.1
Mornington Peninsula Statistical Region	2.7	5.0	6.2	8.1	6.2
Balance of Victoria Major Statistical Region	4.3	4.1	4.9	6.1	4.9
Barwon-Western District Statistical Region	4.1	5.0	6.3	8.2	6.3
Central Highlands-Wimmera Statistical Region	4.4	5.5	6.8	8.9	6.8
Loddon-Mallee Statistical Region	4.7	5.2	6.5	8.6	6.5
Goulburn-Ovens-Murray Statistical Region	4.5	5.8	7.2	9.4	7.2
All Gippsland Statistical Region	4.0	5.6	7.0	9.1	7.0
Brisbane Major Statistical Region	3.7	3.5	4.3	5.4	4.3
Brisbane City Inner Ring Statistical Region	3.8	4.4	5.8	7.6	5.8
Brisbane City Outer Ring Statistical Region	3.4	4.2	5.6	7.3	5.6
South and East BSD Balance Statistical Region	3.3	4.5	5.6	7.3	5.9
North BSD Balance Statistical Region	2.6	4.0	5.3	7.0	5.3
Ipswich City Statistical Region			5.3	7.0	5.3
Balance of Queensland Major Statistical Region	4.3	3.7	4.7	5.8	4.7
Gold Coast Statistical Region		4.7	6.2	8.1	13.4
Gold Coast North Statistical Region Sector			7.4	7.4	7.4
Gold Coast South Statistical Region Sector			5.9	7.7	5.9
West Moreton Statistical Region	3.2	4.5	5.9	7.7	5.9
Wide Bay-Burnett Statistical Region	3.7	4.7	6.2	8.2	6.2
Darling Downs-South West Statistical Region	3.0	4.8	6.3	8.2	6.3
Mackay-Fitzroy-Central West Statistical Region	3.7	4.3	5.7	7.5	5.7
Northern-North West Statistical Region	3.4	4.8	6.4	8.4	6.4
Far North Statistical Region	4.1	5.1	6.7	8.8	6.7
Sunshine Coast Statistical Region			5.9	7.7	5.9
Adelaide Major Statistical Region	2.4	2.1	2.5	3.1	2.5
Northern Adelaide Statistical Region	1.9	2.5	3.0	3.9	3.0
Western Adelaide Statistical Region	1.6	2.7	3.4	4.4	3.4
Eastern Adelaide Statistical Region	1.5	2.5	3.1	4.0	3.1
Southern Adelaide Statistical Region	1.8	2.5	3.1	4.0	3.1
Balance of South Australia Major Statistical Region	2.2	2.0	2.4	2.9	2.4
Northern and Western SA Statistical Region	2.4	2.8	3.4	4.4	3.4
Southern and Eastern SA Statistical Region	2.2	2.3	2.8	3.7	2.8

Perth Major Statistical Region	2.6	2.5	3.4	4.2	3.4
Central Metropolitan Statistical Region	1.4	3.3	4.8	6.3	4.8
East Metropolitan Statistical Region	2.1	3	4.5	5.9	4.5
North Metropolitan Statistical Region	1.9	2.9	4.3	5.7	4.3
South West Metropolitan Statistical Region	1.9	2.8	4.2	5.5	4.2
South East Metropolitan Statistical Region	2.5	3.1	4.5	5.9	4.5
Balance of Western Australia Major Statistical Region	2.8	2.3	3.2	4.0	3.2
Lower Western WA Statistical Region	2.6	2.6	3.8	5.0	3.8
Remainder-Balance WA Statistical Region	3.2	3.0	4.5	5.8	4.5
Greater Hobart-Southern Statistical Region Sector	1.1	1.1	1.2	1.4	1.2
Greater Hobart Statistical Division	0.6	1.0	0.7	1.4	1.1
Southern Statistical Division		1.7	1.9	2.5	1.9
Balance of Tasmania		1.2	1.3	1.6	1.3
Northern Statistical Region Sector	1.1	1.4	1.5	2.0	1.5
Mersey-Lyell Statistical Region Sector	1.1	1.4	1.6	2.0	1.6